

**REMARKS**

Applicant wishes to thank the Examiner for considering the present application. In the Office Action dated July 14, 2004, claims 1-28 are pending in the application. Applicant respectfully requests the Examiner for reconsideration.

Claims 1-19, 25-28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Tang* (5,916,077) in view of *Teleskivi* (4,282,687).

Claim 1 was that the void is defined by the first sheet of fire-resistant material, the second sheet of fire-resistant material, and the spacers. The fire-resistant material is further defined as a fiber strengthened composite. Support for this is found in paragraph 21. The fiber strengthened composite may be fiberglass in a mat form or other material suitable for strengthening gypsum such as paper which has wood fibers. The reference to the spacer has been clarified to recite a plurality of spaced apart spacers. Each of the independent claims has been amended to clarify the position and constituents of the void or voids.

The Examiner states on page 2 of the Office Action, "Tang shows spacers (27) disposed within the void (28), a first sheet of fire-resistant insulating material (23), a second sheet of fire-resistant insulating material (24), a first outer skin (21) and a second outer skin (22)." The Examiner further states that the *Tang* reference does not show the fiber-strengthened composite material. The *Tang* reference is also illustrated for showing a hinge stile and a latch stile (29). Applicant respectfully submits that reference numeral 29 is directed to a sealing plate. Applicant submits that the wood structure 27 corresponds to a hinge stile and/or a latch stile. The Examiner, as mentioned above, points to the wood structure 27 as a spacer. Applicant respectfully submits that the portions on the edges of the doors are stiles and not spacers as set forth in the present invention. The present invention includes rails at the top and bottom, a hinge stile, a latch stile and spacers.

The *Teleskivi* reference is related to a fire-resistant structure such as a fire door. The structure generally has many sections. The bulk of the sections include only one layer of

sheet material positioned in the center of the door as shown in the lower portion of Fig. 2. However, the *Teleskivi* reference also has a lock portion L that is reinforced by sandwiching a plurality of gypsum sheets 28 together for support. However, the entire door is not formed in this construction. The *Teleskivi* reference does not include voids that are formed between sheets of insulating material and spacers. As mentioned above, in the bulk of the door only one sheet of insulating material is used. In the lock portion of the door, denoted by L, no voids are formed so as to reinforce the door where the lock is fastened. The *Teleskivi* reference also does not include 2 layers of fiber strengthened material having voids therebetween.

Each of the claims recites the void and the position thereof within the door relative to the fire-resistant material and the spacers. Neither of the references teaches spacers for use in a fire-resistant door. Therefore, since no teaching or suggestion is provided in the *Tang* or *Teleskivi* references for such a construction, applicants respectfully request the Examiner for reconsideration.

Claim 9 is another independent claim that has similar limitations with respect to the sheets of fiber strengthened composite material. Claim 9 also recites that the voids are between the first vertical edge, second vertical edge, top rail, bottom rail, spacers and the first and second sheets of fiber strengthened composite fire-resistant insulating material. Claim 11 also has similar limitations. Therefore, claims 9 and 11 are also believed to be allowable for the same reasons set forth above.

Claim 26 also contains similar limitations to those set forth above. Claim 26 is more specific to a gypsum-based fire-resistant insulating material. The *Tang* reference does not teach or suggest the use of a gypsum material. The only materials referred to in the *Tang* reference are calcium silicate, magnesium oxide and calcium carbonate. Therefore, there is no teaching or suggestion for a gypsum-based material.

Claims 27 and 28 are also believed to be allowable for the same reasons set forth above with respect to claim 26 since neither reference teaches or suggests a gypsum-based material and a specific structure as described above with respect to claim 1.

Dependent claims 2-8, 10, and 12-19 are further limitations of their base claims and are believed to be allowable for the same reasons set forth above.

Claim 24 stands rejected under 35 U.S.C. §102(b) as being anticipated by *Quinif* (6,132,836). Applicant respectfully traverses. Claim 24 includes sheets of fire-resistant material. No teaching or suggestion is provided in the *Quinif* reference for fire-resistant material. The *Quinif* reference is specifically directed to interior non-fire-resistant doors as illustrated. Each of the edges is formed of a wood material, the interiors are formed of cardboard, and the outer skins may be formed of a Masonite-type molded material. No contemplation is set forth in the *Quinif* reference for fire-resistant material for forming a fire door. Applicant therefore respectfully requests the Examiner to reconsider the rejection of claim 24.

Claims 20-23 stand rejected as being unpatentable over *Quinif* in view of *Teleskivi*. Claim 20 is a method claim for forming a door. It should be noted in this rejection that the Examiner admits that *Quinif* does not show fire-resistant material. However, in claim 24 above the Examiner points to the *Quinif* reference for having such materials. As mentioned above, the *Teleskivi* reference includes for the bulk of the door, only a single layer of fire-resistant material therein. This material is placed within the door. No teaching or suggestion is provided for the step of "coupling a plurality of spaced apart spacers, a pair of rails and a pair of stiles between the first sheet of fire-resistant insulating material and a second sheet of fire-resistant insulating material to form a plurality of unfilled voids therebetween. The claim further recites that outer skins are placed upon the first sheet and second sheet of fire-resistant material. No teaching or suggestion is provided in *Teleskivi* for coupling skins to the first and second sheet of fire-resistant material since the fire-resistant material sheet is formed within the door. Applicant respectfully submits that the Examiner is forming hindsight reconstruction of the

present invention using the teachings of the present invention for the motivation. Applicant therefore respectfully requests the Examiner to reconsider the rejection with respect to claim 20.

Claims 21-23 are dependent upon claim 20 and are believed to be allowable for the same reasons set forth above.

In light of the above remarks, applicant submits that all rejections are now overcome. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments which would place the application in better condition for allowance, the Examiner is respectfully requested to call the undersigned attorney.

Please charge any fees associated with this amendment to Deposit Account 50-0476.

Respectfully submitted,

  
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